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April 22, 2016

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

RE: Expanding Consumers' Video Navigation Choices (MB. Docket No. 16-42)

Dear Ms. Dortch:

As the Federal Communications Commission (FCC) prepares to review public comment on its proposed rules in MB Docket No. 16-42, I hereby submit several pieces of fresh analysis that reveal the FCC's proposals are premised on an incorrect understanding of the marketplace it purports to regulate and will in fact negatively impact the consumers and diverse programming voices the agency claims it wants to help.

According to the FCC's Fact Sheet released January 27, 2016, the agency is telling the public that MVPD customers are experiencing runaway inflation in the prices they pay to buy or lease set-top boxes. This assertion is simply not true as reflected in recently published analysis. The presumption in the FCC's Fact Sheet is that large MVPDs are gouging their customers; however, close analysis of the prices being charged by a variety of MVPDs reveals that third-party boxes like TiVo and the fees charged by smaller cable operators are higher than those charged by larger competitors. Thus, efforts to influence the pricing of STBs based on this and other incorrect assumptions about the video marketplace may have the perverse effect of raising costs to all MVPD consumers, not reducing them. I have previously raised these concerns myself in an OpEd to The Washington Times.[1]

Further, neither the FCC nor the White House's recent engagement on the issue has considered how the FCC's proposal will damage the relationships between pay TV providers and advertisers, and how that

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[1] David Balto, *The hidden costs of 'AllVid'*, THE WASHINGTON TIMES (Feb. 16, 2016), http://www.washingtontimes.com/news/2016/feb/16/david-balto-the-hidden-costs-of-allvid/#.VsPWNIV3Zs4.twitter

could undermine the incentive of telcos (newcomers to the pay TV market) to invest in fiber-to-the-home networks that enable telcos to directly compete against cable operators.

The impact which the FCC's proposals will likely have for consumers of content and for programmers and network operators are complex and varied. At a minimum, the FCC should welcome a more thorough and thoughtful examination of the evidence and the impacts before it acts. In the hope that these insights may assist the Commission in its work, I respectfully submit it for review and consideration.

Regards,

David A. Balto

David Balto

Forbes

The Sketchy Stat Behind The FCC's 'Unlock The Box' Campaign

Hal Singer, February 5, 2016

Imagine you wanted to launch a campaign to garner public support for a technology mandate that will steer profits to a politically favored class of companies. Publishing an eye-popping statistic that stokes the anger of the masses would be a very effective tactic.

The FCC's "Unlock the Box" campaign is built on some fuzzy math.

According to a new Federal Communications Commission "Fact Sheet," cable customers are experiencing runaway inflation in set-top boxes (STBs)—those anachronistic devices that are collecting dust in your cabinets—at a nominal clip of 185 percent since 1994. Even the Chairman of the FCC, Tom Wheeler, joined the campaign, citing the magical figure in the third paragraph of his Re/Code op-ed.

(Why this FCC seems hell-bent on extending the life of STBs rather than facilitating the adoption of app-based technologies is fodder for another post. For now, let's get to the bottom of this 185 percent inflation figure being bandied about.)

The bumper-sticker number, which was dutifully picked up by tech reporters Cecilia Kang on NPR and Jon Brodkin, among others, comes from a study co-authored by Consumer Federation of America (CFA) and Public Knowledge (PK). Most reporters didn't scrutinize the study's methodology; had they done so, they would have seen that the true rate of inflation in STBs is likely closer to zero.

The immediate challenge in constructing an inflation index for STBs is that nobody knows what cable subscribers are paying *on average* for the equipment. To this end, the CFA/PK study leans on a July 2015 query of the nation's top ten cable providers, conducted by Senators Markey and Blumenthal.

Question 2 of the Senators' query asked respondents "What is the monthly leasing cost of each set-top box that your company offers?" Question 3 asked "What was the total revenue your company earned from leasing set-top boxes to customers in fiscal year 2014?"

Problem solved? Hardly. The cable providers held this information close to the vest, and the answers they did provide don't permit one to compute an average price for STBs. Here's a summary of the data the Senators compiled:

Respondent	*Question 2*	*Question 3*
AT&T	$0 for the first STB; $8 for non-DVR STBs thereafter	"Commercially sensitive information"
Bright House	$1 limited service STB; $8 standard STB; $2 Digital adapter	"Not publicly available"
Cablevision	$6.95 (with some individualized discounts)	"Not publicly available"
Charter	$6.99 (not including promotional discounts)	"Confidential information"
Comcast	$1-$2.50 for standard-definition STBs; $2.20-$2.50 for high-definition STBs	"Not Publicly available"
Cox	$1.99 for Mini Box; $8.50 for all others (with some individualized discounts)	"Confidential and proprietary"
DIRECTV	$6 (not including fees for advanced services)	"Not publicly available"
DISH	$0 for the first STB; $7 thereafter (not including advanced service fees)	"Not publicly available"
Time Warner Cable	$7-$11.25 (with some individualized discounts)	"Confidential and proprietary"
Verizon	$11.99 for the first STB; $7.99 for the second and third; $6.99 for the fourth and fifth (not including DVR service)	"Competitively sensitive"

While the answers to Question 2 serve as a useful rate card, they would need to be married with data on how many customers take each flavor of STB to be helpful. How the Senators used these datapoints to arrive at an average monthly price of $7.43 is a mystery.

Not to be deterred by this black-box method, the CFA/PK study compares the "average" STB rental price in 2015 per the Senators' letter ($7.43) to the "average" STB rental price in 1994 per an FCC study ($2.60). And voila: Ignoring any changes in quality of STBs over the intervening two decades, the CFA/PK study derives the magical 185 percent figure (equal to $7.43/$2.60 – 100%).

Of course, the 2015 version of STBs include an array of new features (such as DVR, high-definition, two-way interactive support) not available in the plain-vanilla boxes of yesteryear (offering descrambling only). That an STB can pause live TV and be effortlessly programmed to record (or even intuitively suggest) hours of programming—remember what it used to be like to program a VCR to record even one show—arguably represents *more* than a 185 percent improvement. In any case, to control for this difference in quality, as the Bureau of Labor Statistics does for its price indices, the authors could have compared 1994 STB prices to the 2015 prices of *standard* STBs. But that apples-to-apples comparison would have yielded STB inflation of close to zero or even slightly negative (using Bright House's or Comcast's prices). And that makes for a lackluster public-relations campaign.

It's one thing to claim that rental prices for STBs are too high based on specious calculations. It's quite another to then claim what prices would be if a company such as Google were to step in between cable providers and content creators, potentially selling advertising around unbundled content, and selling viewing information to advertisers. The CFA/PK study suggests that had the FCC pried open the STB market in 1994, STB rental prices would have evolved at the rate of inflation for cellular and personal computer equipment, falling from $2.60 in 1994 to $0.31 by 2015.

But is 31 cents per month—effectively a zero price—the *right* price for STBs? It is unlikely that cable operators would charge less than the amortized capital expense they pay to STB makers such as Cisco or Motorola, even in the presence of a hypothetical zero-price offering from Google. A zero price is also hard to square with a real offering from a third-party provider: TiVo currently charges $14.99 per month for its box (and that's after shelling out hundreds of dollars upfront).

Indeed, a zero price for STBs—the presumed goal of Mr. Wheeler's latest unbundling scheme—is likely to prompt cable operators to revisit their prices for cable services. Under the current pricing model, households with two or more STBs contribute more revenue than do households with a single STB. By forcing all costs (programming and equipment) to be recouped through cable prices, Mr. Wheeler's foray into the STB market could serve as a regressive tax, transferring wealth from single-box homes to multi-box homes. Ironic that his greatest support comes from the public-interest community.

Forbes

Before It 'Unlocks the Box,' The FCC Must Solve This Pricing Puzzle

Hal Singer, February 15, 2016

The Federal Communications Commission has built a slick #UnlockTheBox campaign on a theory that cable and satellite operators are leveraging their monopoly power in cable television to impose overcharges on set-top boxes. But is that simple narrative the whole truth and nothing but?

Good policy comes from good economic theory that can explain the facts. If the FCC's theory cannot explain set-top box (STB) pricing patterns, then its proposal to require video distributors to "unbundle" their programming so that Google and others can repackage them is likely misguided.

(The FCC's campaign is also predicated on a sketchy statistic concerning STB inflation, which I debunked here. Alas, the FCC continues to repeat this fiction, indicating the agency is still operating in what its former chief economist dubbed an "economics-free zone.")

In its "Fact Sheet," the FCC claimed that "cable and satellite providers have locked up the market," leading to "high prices for consumers" of STBs. Senator Blumenthal, who along with Senator Markey is agitating for FCC intervention, stated that "Consumers deserve competitive options in accessing technology and television—not exorbitant prices dictated by monopoly cable companies." In a recent interview with the *Washington Post's* Brian Fung (at 2:10), FCC Chairman Tom Wheeler justified the proposed regulation as a way to end cable's "monopoly stranglehold" over cable subscribers.

The FCC's theory cannot explain TiVo's pricing.

The FCC's monopoly-leveraging theory has a straightforward implication: Because pricing power in the STB market allegedly derives from monopoly power in cable television, cable operators with *larger* market shares—a proxy for market power—should charge *higher* prices for STBs, all things equal.

Yet the relationship between STB prices and market power in cable television defies that prediction. Indeed, STB providers with little or no market power in cable television charge some of the highest STB rental prices.

Let's start with TiVo, a standalone STB retailer that clearly lacks market power in cable television. By the FCC's monopoly-leveraging theory, TiVo must charge the lowest STB fee, right?

Wrong. Unlike cable operators, TiVo charges customers an upfront fee of between $299.99 and $599.99 for a DVR, which includes one year of TiVo service; thereafter, a monthly service fee of $14.99 applies. Assuming the customer keeps the box for three years, the weighted average monthly rental is a whopping $18.33 (500 GB) to $26.66 (3000 GB).

Now let's turn to Verizon, which was the fourth video provider (after the incumbent cable operator and two satellite providers) in its territory. Using the FCC's data from 2013, Verizon's in-region penetration was a modest 29 percent (equal to 5.3 million video subscribers divided by 18.6 million homes passed). Because not every household has cable television, Verizon's in-region market share is slightly higher—roughly one third of video households—yet hardly indicative of monopoly power.

By the FCC's theory, Verizon's prices for STBs should be near the low end of the spectrum. According to its answers to Senators Markey and Blumenthal, however, Verizon charges $11.99 per month for the first STB, plus $22.99 for basic DVR service for one TV. That's a hefty $34.98 per month in STB fees.

And how about Comcast? The largest cable operator enjoyed a penetration rate of 40 percent in 2013, which corresponds to an in-region market share of slightly over half of all video households. By the FCC's theory, Comcast's STB prices should be "exorbitant." Yet the monthly cost of a Comcast X1 DVR for a single TV is a modest $9.99 (assuming you already have HD service). What gives?

One might argue that TiVo's rental price is inflated by the cable operators' refusal to provide access to certain interactive features. Although TiVo likely incurred a hefty cost to reverse-engineer those features, those sunk costs don't translate easily into higher prices. Even if the FCC's proposed rule would provide TiVo's customers access to those two-way features *for free*, that would not represent a cost savings from TiVo's perspective. And that means we shouldn't expect TiVo to reduce its STB price after the FCC unlocks the box.

The same holds true for other standalone STB providers, like Google's SageTV and Hauppauge, which have overcome whatever obstacles cable operators thrown their way. Going forward, the incremental cost of providing those features—like integrating cable programming with local programming and any over-the-top content in a user-friendly interface—is zero regardless of what the FCC does. An agency that eschews economics need not worry about such things.

But for those us who embrace economics, what explains this pricing puzzle? TiVo's STB price is more likely explained by demand-side factors, such as a cable customer's valuation of recording, programming, and other interactive characteristics. Another factor leading to high prices (and also unrelated to monopoly) could be the way cable customers think (or don't think) about the STB decision at the time they purchase cable television.

Economists have long studied pricing in ancillary or aftermarkets—from rental movies at hotels to warranties at electronics retailers to popcorn at movie theaters—and have recognized that structural competition in the primary market does not guarantee competitive prices in aftermarkets. In conducting the research for this article, I noticed that pricing information on STBs was generally unavailable on the cable operators' websites. Is it any wonder why pricing competition on STBs could be soft?

Understanding why TiVo and smaller cable operators charge more for STBs is a critical fact that the FCC needs to comprehend before intervening in the STB market. If the FCC has misdiagnosed the problem, then its proposed remedy—permitting third parties like Google to repackage cable programming on an unbundled basis—might not generate much bang (lower STB rental fees) for the buck. Even if the FCC is right about monopoly leveraging for certain cable providers with a large market share, that problem falls squarely in the domain of antitrust agencies, which have greater expertise in these matters.

The FCC needs to go back to the drawing board on set-top boxes. It's time to exit the economics-free zone.

Forbes

Could Three Esteemed Economists All Be Wrong on Set-Top-Box Reform? Well, Yes.

Hal Singer, April 20, 2016

In the past week, several economic titans endorsed the Federal Communications Commission (FCC) plan to open the set-top-box market to third-party providers like Google. Jason Furman and Jeffrey Zients, two White House economists, embraced the plan in a blog posting, claiming the initiative would "allow for companies to create new, innovative, higher-quality, lower-cost products." Relying on that advocacy, the *Wall Street Journal's* chief economic commentator, Greg Ip, also came out in favor of the plan:

Net neutrality hurts innovation by proscribing the business models ISPs and content providers can experiment with. The set-top box proposal, by contrast, should encourage experimentation with new ways to view and manage programming. It seems highly unlikely to hurt competition and likely to boost it. Combined with many such steps, it could help rejuvenate economic growth.

To Ip's credit, one for two ain't bad. He is spot on when it comes to net neutrality.

The White House brings out the big economic guns in support of the FCC's set-top-box proposal.

Could three esteemed economists all be wrong on set-top-boxes? The economics of aftermarkets (think printer cartridges or razor blades) is complicated and often counterintuitive, and even the best economists can be overcome by first impressions.

Like any good economist, Ip attempted to perform a cost-benefit analysis. By his logic, opening the set-top-box market to competition should spur innovation (a future benefit); so long as the proposed rule is "unlikely to hurt competition" (a potential present cost), then the rule generates net benefits for society.

But what harms to competition did Ip consider? His piece mentions how the proposed rule might "damage relationships between suppliers of *programming content* and the cable companies." Apparently, these "dislocation costs" are manageable in his mind, or at least swamped by the supposed lift to innovation. In any event, if programmers and pay TV companies were forced to re-write their contracts, those costs would be borne by the private parties and not by consumers (or so we hope).

In his snap cost-benefit, Ip neglected to consider how the FCC's proposal could damage relationships between pay TV operators and *advertisers*, and how that could undermine the incentives of telcos (relative newcomers to pay TV) to invest in fiber-to-the-home (FTTH) networks to compete against cable operators. He also neglected to understand how the seemingly high price for set-top boxes might reduce the total price of video services, bringing additional customers into the market.

Finally, neither Ip nor the White House economists seem to have considered how pay TV operators are likely to respond when deprived of revenue on two fronts (advertising and set top boxes). Pricing theory suggests that the industry is likely to rebalance its rate structure by raising cable subscription prices across the board. In light of all this, it's hard to see how consumers come out ahead, relative to a world without set-top-box regulation.

First Neglected Harm: Upsetting Relations with Advertisers

Let's start with the costs associated with upsetting relations with advertisers. Spot cable ads sold by pay TV providers allow local businesses to show their television ads on national cable networks without having to buy airtime from those networks. The prices are based time of day, the program on which your ad airs, size of the audience, and length of the ad. Implicit in price is the operator's *control over channel placement and other delivery options*, which could no longer be guaranteed under the new regime. For example, Google (or some other third-party box provider) would control how the channels are displayed to the customer, and it could insert additional advertisements that would vie for the viewers' attention.

What is the potential cost to pay TV providers of losing control over channel placement? According to SNL Kagan and Statista, local cable advertising revenue was approximately $5 billion in 2015. Because the television advertising business is built on guaranteed placement in programs and narrow time windows on specific networks, as well as guaranteed impressions on delivery of audience levels in these purchased ad placements, the inability to offer such guarantees could significantly diminish the value of those ads.

Telcos count on video revenues, including advertising revenues, when deciding whether to wire a new neighborhood with fiber. If FTTH deployment were ubiquitous, then perhaps a regulatory shock such as the set-top-box rule that undermined the economics of FTTH could be tolerated in exchange for some other public policy goal (like Ip's claimed surge in device innovation). As of September 2015, however, slightly less than one in five U.S. homes were passed with FTTH. According to RVA, homes marketed with FTTH are projected to increase from 28 million in 2016 to between 42 and 51 million in 2019. FTTH-related annual capex is expected to increase from $4 billion in 2016 to between $8 and $11 billion by 2019.

How much of that planned FTTH investment would be derailed by a reduction in advertising revenues (and forgone set-top-box revenue) is hard to say exactly, but similar "mandatory unbundling" regimes dating back to the 1990s have been estimated to have derailed large sums of telco investment. In any case, it's certainly a dynamic consideration that must be weighed in any cost-benefit analysis of the FCC's proposal.

Second Neglected Harm: Upsetting Cable Video Pricing Structure

Set-top boxes are best understood as an aftermarket, similar to printer cartridges (printers are the primary product) and movie popcorn (admissions are the primary product). Economists understand that, *under certain conditions*, a firm can employ “metered pricing” as a way to charge high-value customers more for the same service yet reduce the total price of the package (primary product plus aftermarket product) for “marginal customers”—that is, customers who are just priced out of the primary market given their willingness to pay.

Key to this result is that customers who demand more of aftermarket good also place a greater value on the primary good. Analyzing the pricing of a Spanish chain of movie theaters, two Stanford economists demonstrated that high-value customers for admissions also demanded greater concessions at the theater. Accordingly (and perhaps counter-intuitively), high popcorn prices allow theaters to admit more people to their movies via lower ticket prices. A good thing!

What’s the lesson for set-top-box reform? So long as high-value customers for home video also demand more set-top boxes—a reasonable assumption—then pay TV operators can use metering to reduce the total price of home entertainment for marginal cable customers. If this pricing structure were upended by the FCC’s proposal, economic theory predicts that pay TV prices would rise, thereby crowding out marginal video customers. Put differently, the current subsidy that flows from large (and potentially wealthier) households with several set-top boxes to smaller households with fewer set-top boxes would vanish under the FCC’s proposal. And shrinking the pay TV market via higher cable prices would be a bad thing.

Did any of these three esteemed economists think of that?

The Washington Times

The hidden costs of 'AllVid'

David Balto, February 16, 2016

The FCC's plan for set-top television boxes will drive up costs for consumers

ANALYSIS/OPINION:

With much fanfare, the Federal Communications Commission (FCC) has just announced a sweeping new proposal to "tear down the barriers" that supposedly limit innovation and choice in video and save TV viewers on their monthly television bills.

The FCC claims its new rules — similar to the "AllVid" mandate rejected by the Obama FCC in 2010 — are needed to let large tech companies create new set-top boxes viewers could buy to replace the ones they currently lease from their satellite, cable or fiber video provider.

That's sounds like a win for competition — until you read the fine print, which reveals that this new technology mandate won't save money. Rather, it will substantially drive up consumer costs.

The problem is this "AllVid" system the FCC imagines does not exist today. It will have to be designed and built. Existing TV providers will have to redesign and re-engineer their networks, and install new adapter equipment in viewer homes. And viewers will end up paying these costs, a new "tech tax" will roll down onto monthly television bills — hitting every consumer in the pocketbook, whether or not they even want to use the AllVid system.

AllVid proponents claim the system will free us from "the tyranny of boxes," but most viewers will actually end up paying for not just one in-home box, but two: the new AllVid adapter and then a second device that actually connects to the screen.

And those costs will also be substantial. TiVo's Roamio box costs several hundred dollars up front plus monthly fees of about $15 a month — more than double the $7.43 that most viewers pay today. (And AllVid does not replace your existing TV package or give you access to any new programming or shows — so those costs will remain in place as well.)

And don't imagine that you will be able to buy an AllVid box and then spread the costs out over years of service. A recent Los Angeles Times editorial warned the rapid pace of tech change "can make even a two-year-old box seem slow and outdated" — and unlike a leased box viewers can upgrade year after year, you can't trade in the AllVid box you bought at retail and own. Like smartphones today, the relentless pressure to upgrade and advance is going to hit consumers in their pocketbooks year after year under this poorly conceived rule.

Why then does the FCC claim its proposal will save consumers money? Because it is relying on data provided by paid advocacy organizations that have simply skewed the facts.

These groups claim that 99 percent of pay TV viewers are "chained" to company-provided set-top boxes, for example. But that data is three years old and out of date, and ignores the massive changes in the market that are underway.

Today, millions of Americans receive pay video over boxless apps — these viewers are not chained to anything but watch on the go on tablets, phones, laptops and more. Netflix alone has more subscribers than any cable company. Streaming apps are already available on more devices — tablets, phones, game consoles — than there are set-top boxes in consumer homes today. Meanwhile, pay TV companies are losing subscribers by the droves, as cord cutters turn to Web-based services and streaming devices like Roku, Apple TV and smart TVs. Apple's Tim Cook often says "the future of TV is apps" — while the FCC's backward-looking, box-focused approach will only drag us into the past.

The FCC's claims about massive profit margins and overcharges are also incorrect. For example, the FCC complains that the average pay TV household spends $231 a year on boxes, but ignores the fact that competing devices, like TiVo's Roamio and undoubtedly whatever new systems AllVid puts in place — cost far, far more. And the claim that box prices have increased 185 percent during the past 20 years is especially spurious. Comparing apples to apples, a box that would have cost $2.50 a month in 1994 would cost just about the same today — that's a zero percent increase, not 185 percent.

Once you cut through the noise and the hype and the FCC's political spin, you end up at a basic truth: There's no such thing as a free lunch — and no such thing as free technology. If the FCC forces the creation of a new box, you will have to pay for it, whether you use it or not. And based on the information the commission has released so far, consumers will likely find themselves paying far more to create, implement and maintain this AllVid system than they pay today.

• *David Balto served as policy director at the Federal Trade Commission and as an attorney in the Justice Department's antitrust division.*